

Warren Mining District

In Particular with Other Important Information from Personal Observation

Facts Relating to Drills In Exploring Mineral Lands

WHERE WILL SOON BE EXTENSIVE WORK ALONG THIS LINE AT SEVERAL PROPERTIES IN WARREN DISTRICT.

MAINTAINED THAT DRILL HOLE IS AS EFFECTIVE AND RELIABLE AS SHAFTS IN DETERMINING VALUE OF GROUND.

Drills Will Be Placed in Operation in the Calumet & Arizona Today, at the Eleven-Hundred Foot Level.

The advent of the diamond drill will, within a comparatively short time, entirely change the method heretofore employed in determining the value of mineral lands in the Warren district. Already several of the more prominent prospecting companies have decided to employ the drill method of further exploring their lands, and as orders for the machines have been placed some time ago, it will be but a few weeks ere a vast amount of work will be done in the various sections of the Bisbee camp.

That the results will prove satisfactory, insofar as finding out the value of the many properties is concerned, there is no doubt. Extensive use has already been made of the diamond drill on the Junction company's lands, and the work has been carried on with great success. Conditions here, so far as general formation is concerned, is similar to those in most all parts of the district, so the assumption that drills will be used with equal success in the other sections of the camp is not outside of reason. At least, it is fair to assume that even should certain companies, who have decided to do exploratory work along this line, encounter some difficulties not met with at the Junction, they will still save much money by exploring by means of drill holes in preference to shafts and drifting.

Economy has at last become the watchword in the Warren district, where previously vast sums of money have been expended in developing properties. Deep shafts and tunnels have been sunk at great cost where the use of a diamond drill would have been just as satisfactory in locating ore bodies. In many instances thousands of dollars could have been saved and it is a strange fact that the men who have been prominent in the development of this rich territory have not long ago realized, in the drill method, an economic measure of vast importance. It is not unreasonable to predict that had many prospecting companies adopted this method in proving their lands, there would now be a considerably larger number of successfully operating mines in Arizona today. Thousands of dollars expended in sinking shafts and running tunnels would have been saved to later be used in the work of opening up ore deposits and in the purchase of equipment for bringing the minerals to the surface.

But it is not yet too late, as there are numerous properties whose value for mining have as yet been undetermined. Many of these warrant the expenditure of money in this direction, and the diamond drill method has been demonstrated as the most economical. That the machine will be used extensively in the future is certain, and as a result at least some of the properties will be so situated, at a much earlier date, to produce mineral than they would have been under the old method of exploitation.

Drill Work at Junction.
At the Junction, where the first diamond drill work was done in the Warren district, Superintendent Lewis Buese, one of the Sullivan Machinery company's experts, yesterday completed the erection of the machine for the sinking of the fourth hole on this property. Drilling will be commenced today, and the company will, in addition to this work, continue prospecting with the drill until the value of every section of its considerably large tract of land is proven.

Superintendent Buese said yesterday to The Review representative that since starting exploratory work on the Junction some six months ago with the drill, no difficulties of a serious nature were experienced. The three holes put down were sunk in a reasonable length of time, and results were quite satisfactory. The theory advanced, when it was first proposed to use drills in this section, that the machines were not adapted to the formation here, has been absolutely disproven. While in some places cavities and openings of various natures were encountered, they did not interfere materially in the work of sinking and finding out just what sort of mineral or other matter was deposited beneath.

C. & A. to Use Drill in Shaft.
Today a drill will be put in commission in the Calumet & Arizona's shaft at the 1,100-foot level, for the purpose of exploring the ground in this vicinity. Further diamond drill work at this property has also been mapped out. These facts are assurance that results attained at the Junction, so far

as the utility and economy of drill work is concerned, were entirely satisfactory, for the C. & A. people have established beyond a doubt their ability and competence for adopting those methods of operation which give the best returns for money expended.

Others Using Drills.

Other companies, other than the ones mentioned above, who will employ drills on their properties in the near future are the Calumet & Bisbee, Calumet & Cochise, Wolverine & Arizona, Portage Lake & Arizona, Bisbee Consolidated, Pittsburg & Duluth and Lake Superior & Pittsburg. The Mitchell Development company will also soon operate a drill on its property. The Copper Glance has already done quite extensive exploring by means of the drill, and will continue until the extent of their property's value is learned. The Houghton Development company is now sinking for water with a drill, and when that work is completed, the machine will be used for exploring for mineral.

What a Drill Can Do.

The diamond drill bores a perfectly straight, smooth hole to any depth or in any given direction from vertical to horizontal, bringing to the surface a solid section or "core" of all strata passed through, in order, showing their exact depth, thickness and character of the rock. This core is large enough to be thoroughly examined and tested, and what is of almost equal value, if the mineral sought for is absent, the fact is determined beyond a doubt. It also gives positive information of the material that would be met in sinking a shaft to work the mineral whose presence has been determined, making it possible to estimate closely the cost of the shaft. Skill required in the operation of these machines is not unusual in amount, as any man of ordinary intelligence, with a fair knowledge of engines and machinery, can run one for ordinary prospecting. Among the other inestimable advantages gained by prospecting with the drill are the economy in time and expense, and especially in accuracy of results. The core obtained is not only a correct and accurate record of the mineral sought for, but a record also of the material which a shaft will have to penetrate to reach the mineral. By means of the core the value of the mineral and the cost of a shaft or tunnel to it can be accurately determined in advance.

Some Interesting Facts.

In a recent issue of the Daily Mining Gazette, Houghton, Michigan, the following interesting facts relating to the diamond drill were given:

"A comparison of financial economy and time economy in favor of diamond drill work as against shaft and drift work is interesting. The record for shaft work, which has had a splendid chance to be averaged up during the last two years in the Bisbee camp, is 100 feet a month as a maximum, while it will generally fall somewhat below this, probably not standing better than three feet a day. An estimate made by one interested in the Junction property, which operated a diamond drill for several months, shows that the drill work will average close to thirty feet a day, or ten times faster than shaft work.

"It costs the Michigan development companies operating in the Warren district about \$6,000 a month to carry on operations in one shaft, with an increase in costs for each additional point of operation. The cost of operating a diamond drill there will scarcely exceed \$2,000 a month, or one-third the cost of shaft work.

"The original cost of a drill and outfit complete, including diamonds, boilers, pump and other necessary appurtenances, is \$6,000, or the cost of one month's operation with a shaft. And when a company is through with its drill it has an outfit that can be sold at very little depreciation from its original cost.

"It is very evident, therefore, that the argument in favor of drill work is well taken. So far as results are concerned, it can be seen that with the greatly increased speed and the much reduced costs in operating a drill instead of sinking a shaft, a company can put down ten holes at a given distance in the same length of time that it would take to put down one shaft that distance, and will only expend one-third the money.

"There are no regrets for the shafts which have been sunk and have not yet been bottomed in ore—the Michigan people are not celebrated for regrets. But it is evident that tens of thousands of dollars might have been retained in the companies' treasuries if drill work had been adopted from the first. It is true that the shafts would have been required ultimately; but they could have been sunk with a view to the greatest economy and convenience had the drills first located the ore bodies, whereas now they may or may not be in the most convenient place for economical tramming and other manipulation of the ore.

"The shafts of all these companies which are introducing diamond drills

Claim Holders

GIVEN SOME

Good Advice

PROMINENT MINING MAN GIVES HIS VIEWS.

He Says That Small Holders, Without Means, Should Interest Influential Men to Do Exploring With Drills, as Did Parties Owning the Cunningham Group.

"The deal closed on Friday between the Bisbee parties owning what is known as the Cunningham group of claims, and Michigan men, whereby the latter will soon commence the exploration of the section of territory lying between the Copper Glance and Bisbee Consolidated properties and Don Luis, is about the most sensible of any of its kind that has been perfected here in a long time," said a prominent mining man yesterday, "and the many small claim-holders hereabouts who haven't the means to thoroughly develop their properties, would do well to enter into a similar agreement.

"Diamond drills can determine correctly and definitely whether or not mineral land is worth developing, and the Michigan people seem ready to go ahead with such work provided they are given a chance of realizing profits after final conclusions have been arrived at in instances where mineral has been located. There are many claim owners here, whose property is situated within a radius of a few miles outside the city, who have done the necessary assessment work, but are not in a position, nor have they the means, to go ahead with development work that would probably result in opening up good mines.

"These holders are kept poor because of being required to do a great amount of assessment work so as to hold their claims, which, in most instances, are quite large groups. If their properties contain valuable deposits, as the owners are confident, the diamond drill can soon make the facts known, and thus enable the holders to command consistent prices for their lands.

"The small holders should combine their efforts for the purpose of making similar arrangements as were made by the owners of the Cunningham group. It costs nothing to make such an arrangement, and there is no more rapid, economical or accurate method of determining the value of property which has the appearance of having mineral deposits beneath."

For exploratory purposes will be highly valuable as points from which to carry on operations, and they will be used for this purpose. By placing the drills in the bottoms of the shafts, that much additional depth is gained, beyond the capacity of the drills.

"It is also practicable, in the cases of those properties where it is believed that the shaft is already bottomed below the apex of the ore deposits, to drive their holes horizontally, and thus prove their territory for a distance of 1,000 or 1,500 feet in each direction from the present depth."

EASTER SUNDAY LEASED.

Property to be Worked Extensively During Next 18 Months.

The Easter Sunday property, located in the Warren district, northeast of Bisbee, will be worked and developed during the coming eighteen months by Messrs. Overlock and Thorrain, who have secured a lease of the lands through the officials of the company owning them. Overlock and Thorrain are required by the agreement with the company to do extensive development on the property within the year and one-half that the lease holds good, but as the latter has worked on the land recently and knows quite definitely what returns he and his partner will get for their labor, they consider themselves fortunate in securing the lease.

The Easter Sunday, as is generally known, is a gold mining proposition in which several Bisbee parties are interested. Its future development and the company's success is watched by many who hope that the work to be done by Overlock and Thorrain will result in putting the mine in such shape as will warrant its equipment for extensive exploration and production of the valuable minerals which seem certain to have been deposited on the property.

CALUMET AND BISBEE.

At the Calumet & Bisbee, work is confined to the three drifts being extended on the 900-foot level. Two drifts, one north and the other west, are in a distance of sixty feet. In the first few feet considerable water was encountered, but the work is now progressing rapidly, and the water is not giving much trouble. Some important news is expected from the Calumet & Bisbee before many weeks have passed, as one of the drifts is making rapidly toward the large ore body opened at the Lake Superior & Pittsburg.

Rich Strike in Mayflower District

BIG GOLD FIND STRUCK NEAR SILVER CITY.

Clifton Citizens Are Much Wrought Up Over It—Lowest Assay Yet Found is \$45, and the Highest \$135. All Rock Pans Gold.

News has reached Silver City of a rich gold strike in the Mayflower district, part of which lies in western Grant county. The citizens of Clifton are much wrought up over the new discovery, and the Era of that place says that there has been little else talked of in mining circles. The strike was made on Apache creek, which is in the extreme north end of the district. The lead upon which the strike was made is near the line of New Mexico and Arizona, pitching northeast and southwest. About half the claims located on the lead are in Graham county, and the other half in Grant county, New Mexico. The discovery was made about four weeks ago by one of a group of prospectors who were confident the lead existed, owing to the finding of a piece of rich gold float in that district several years ago. The lead is a "blind" one, with several different outcroppings of the vein, which can be traced for miles across the country and runs directly for the Jim Crow mine, a mile or so west of the old Carlisle mines, in the western part of the county. The vein matter, according to the Era, is several feet wide, all of which carries values, and four feet of which will average more than \$100. The lowest assay yet obtained from the lead is \$45, and the highest \$135. The entire vein matter seems to be pretty evenly impregnated with gold, each panning yielding colors, some of which is two and three inches long. The original locators have sunk a shaft on one of the seven claims, and are now down twelve feet. All the country between the strike and the Jim Crow mine has been located, but as the vein does not crop out on the surface, it is yet too soon to determine whose location covers the valuable lead. The lead is covered by a capping from eight to twelve feet thick, except at an occasional outcropping on some parts of the claims already located. Prospectors in years past went through the capping and then abandoned the work

(Continued on Page Eight.)

DON'T WORRY.

This is easier said than done, yet it may be of some help to consider the matter. If the cause is over something which you have no control it is obvious that worrying will not help the matter in the least. On the other hand, if within your control you have only to act. When you have a cold and fear an attack of pneumonia, buy a bottle of Chamberlain's Cough Remedy and use it judiciously and all cause for worry as to the outcome will quickly disappear. There is no danger of pneumonia when it is used.

Mrs. Jonsson Soderholm, of Ferguson Falls, Minnesota, fell and dislocated her shoulder. She had a surgeon set it back in place as soon as possible, but it was quite sore and pained her very much. Her son mentioned that he had seen Chamberlain's Pain Balm advertised for sprains and soreness, and she asked him to buy her a bottle of it, which he did. It quickly relieved her and enabled her to sleep which she had not done for several days. The son was so much pleased with the relief it gave his mother that he has since recommended it to many others. For sale by all druggists.

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IN EFFECT OCT. 23, 1903. PACIFIC STANDARD TIME.

FROM PHOENIX	STATIONS	TOWARDS PHOENIX
5:10 p.m.	Phoenix	5:36 a.m.
8:50 a.m.	Ar.	7:41 a.m.
7:00 p.m.	Ar.	2:16 p.m.
5:29 p.m.	Ar.	5:12 a.m.
9:09 a.m.	Ar.	7:24 a.m.
7:20 p.m.	Ar.	1:55 p.m.
8:45 p.m.	Ar.	3:45 a.m.

Mesa Branch

TOWARDS MESA	STATIONS	FROM MESA
5:38 p.m.	Tempe	7:19 a.m.
9:12 a.m.	Ar.	1:49 p.m.
6:06 p.m.	Mesa	6:55 a.m.
9:33 a.m.	Lv.	1:25 p.m.

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